CONTENTS

APRIL VOLUME 74, NUMBER 1 1990

General Papers

Sung Ho Lee, Kwang Pyo Chae, Young Bae Lee and Ki Seok Oh — 1 Mössbauer study of $Fe_2O_3-(Al_2O_3)_x-(CuO)_{1-x}$ system

T. C. Vanoy and G. L. McPherson — 5 Paramagnetic Pd^{2+} ions in trigonal sites of $CsMgCl_3$ crystals

T. Ohno — 7 Electronic structures of $(GaAs)_1/(Ge_2)_1$ superlattices

C. Koenig and D. Knab — 11 LMTO analysis of the optical conductivity of XPd_3 compounds (X = Sc, Y, La and Ce)

M. Malinowski, R. Wolski and W. Woliński — 17 Absorption intensity analysis of Pr^{3+}: $Y_3Al_5O_{12}$

Superconductors and Superconductivity

A. G. Vedeshwar — 23 Temperature dependent intergranular critical fields determined by microwave absorption studies in ceramic YBaCuO

E. Baggio Saitovitch, R. B. Scorzelli, I. Souza Azevedo and C. A. dos Santos — 27 On the mechanism of oxygen desorption in Fe:Y – Ba – Cu – O superconducting oxides

B. Reihl, Y. Maeno, I. Mangelschots, K. O. Magnusson and C. Rossel — 31 Rigid band behavior of $Nd_{2-x}Ce_xCuO_{4-y}$: a direct and inverse photoemission study

General Papers (contd)

K. Watanabe, S. Takeyama, N. Miura and T. Komatsu — 37 Observation of surface excitons in BiI_3 thin films single crystals grown by the hot wall technique

F. Bechstedt and R. Del Sole — 41 Giant quasiparticle shifts of semiconductor surface states

K. K. Chin — 45 The de-pinning of Schottky barrier at the In/*n*-GaAs (1 1 0) interface

H. Sobotta, H. Neumann, V. Riede, C. Ascheron and C. Neelmeijer — 49 Localized vibrational modes in proton and deuteron implanted GaP single crystals

H. Yamashita and T. Yagi — 55 Ultrasonic and dielectric properties of $LiH_3(SeO_3)_2$ near the pressure-induced ferroelectric phase transition

i Instructions for Authors on the Preparation of Camera-Ready Manuscripts for *Solid State Communications*

APRIL VOLUME 74, NUMBER 2 1990

General Papers

J. Guélin, J. Sénégas, J. Ravez et P. Hagenmuller — 59 Correlation entre la distribution cationique et la température de Curie de phases oxyfluorées non-stoechiométriques dérivées de $LiTaO_3$

V. Gudmundsson — 63 Oscillating impurity spectra caused by non-linear screening in the quantum Hall regime

S. Yu. Savrasov — 69 A linearized direct approach for calculating the static response in solids

Superconductors and Superconductivity

P. Esquinazi — 75 Vortex diffusion: an alternative to vortex–glass superconductivity

T. C. Leung and B. N. Harmon — 79 Electronic structure of La_2CuO_4 with constrained d^9 configuration

K. Kawabata, K. Tanaka and M. Mizutani — 83 Conducting thin films of α-(BEDT-TTF)$_2I_3$ by evaporation method

V. Manivannan, A. K. Ganguli, G. N. Subbanna and C. N. R. Rao — 87 Layered thallium cuprates not containing calcium, barium or rare earth: a new 1223 type 60 K superconductor in the (Tl, Pb)$Sr_{n+1}Cu_nO_{2n+3}$ series

J. P. Ulmet, M. Mazzaschi, C. Tejel, P. Cassoux and L. Brossard — 91 Original behaviour of the resistivity and high field magnetoresistance in the new organic metal $(NHMe_3)[Ni(dmit)_2]_2$

W. H. Lee, Y. T. Huang, S. W. Lu, K. Chen and P. T. Wu — 97 Induced paramagnetism by low-field-cooled trapped flux in $(Er_{0.2}Ca_{0.8})Sr_2(Tl_{0.5}Pb_{0.5})Cu_2O_y$

General Papers (contd)

R. A. Barrio, J. Tagüeña-Martinez, F. L. Castillo-Alvarado and I. Chambouleyron — 103 Model of the electronic structure of amorphous germanium tin alloys

Byoung-Koo Choi, H. J. Labbé and D. J. Lockwood — 109 Raman spectrum of Na_2SO_4 (phase III)

M. De Crescenzi, M. Diociaiuti, L. Lozzi, P. Picozzi and S. Santucci — 115 Investigation on electronic structure of Cu clusters on graphite by EELS and XPS studies

F. Demichelis, C. F. Pirri and E. Giamello — 119 Spin-resonance spectroscopy of hydrogenated amorphous C–Si–Ge alloys

Wha-Tek Kim, Moon-Seog Jin, Seungcheor Hyeon, Yong-Geun Kim and Byong-Seo Park — 123 Optical absorption of $ZnGa_2Se_4:Cr^{2+}$ single crystals

Wha-Tek Kim, Moon-Seog Jin, Seung-Ho Cheon, Yong-Geun Kim and Byong-Seo Park — 127 Impurity optical absorption spectra of $ZnGa_2Se_4:Ni^{2+}$ single crystals

C. R. Lu, J. R. Anderson, M. Gorska, M. Fotouhi and S. H. Shin — 131 Electrolyte electroreflectance spectra of LPE-grown $Hg_{1-x-y}Mn_xCd_yTe$

i Erratum

APRIL VOLUME 74, NUMBER 3 1990

General Papers

J. W. Krewer, W. Dürr, D. Pescia and R. Feder 137 Spin-polarized electron diffraction from Pb(110): surface barrier and non-spherical potential effects

D. Kaczorowski and J. Schoenes 143 Electrical transport properties of $UCuAs_2$ single crystals

J. Barrau, K. Khirouni, Do Xuan Than, T. Amand, M. Brousseau, F. Laruelle and B. Etienne 147 Wannier – Stark wavefunction spectroscopy in GaAs/GaAlAs superlattices

F. Aguilera-Granja and J. L. Morán-López 155 Ising model of phase transitions in ultrathin films

H. Q. Hou, Y. Segawa, Y. Aoyagi, S. Namba and J. M. Zhou 159 The determination of the band offset of multi-quantum wells by magneto-optical measurements

K. Kakurai, M. Steiner, L. P. Regnault and J. P. Renard 165 Inelastic neutron scattering at quasi 1-D ferromagnet TMNB

X.-M. Tang, J. Weber, Y. Baer and F. Finger 171 Hydrogen diffusion in *a*-Si:H

Superconductors and Superconductivity

S. Yamagata, K. Adachi, M. Onoda, H. Fujishita, M. Sera, Y. Ando and M. Sato 177 Effect of Ni or Zn substitution for Cu in Nd – Ce – Cu – O and Bi – Sr – (Ca,Y) – Cu – O systems

C. von Wesendonk, W. Biberacher and A. Lerf 183 Hydration behaviour and superconductivity of the rare earth intercalation compounds of $2H - TaS_2$

V. V. Gridin, W. R. Datars and P. K. Ummat 187 Electrical transport in superconducting BiPbSrCaCuO

General Papers (contd)

L. M. Kocharian 193 Bistability by excitation of surface electromagnetic waves in ATR system containing cubic nonlinearity

J. T. Lopez-Navarrete, B. Tian and G. Zerbi 199 Relation between effective conjugation, vibrational force constants and electronic properties in polyconjugated materials

I. M. Kyprianidis, K. G. Melidis and A. Anagnostopoulos 203 On the magnetic and electric properties of $Fe_{71}(Ni_{1-x}Mn_x)_{29}$ alloys

W. O. Siyanbola and D. W. Palmer 209 Optical-MCTS of proton-irradiated *n*-type gallium arsenide

i Calendar of Solid State Events

APRIL VOLUME 74, NUMBER 4 1990

General Papers

D. A. dos Santos, D. S. Galvão and B. Laks 215 Protonic doping effects on the electronic behavior of poly (*p*-phenylene-co-2,5-pyrazine)

L. R. Tessler and G. Deutscher 219 Temperature dependent Hall coefficient in two-dimensional heavily doped *p*-type germanium

T. Bretagnon, A. Jean, G. Arnaud and G. Bastide — 223 Hole traps in *n*-type epitaxial GaAs layers grown by the close-spaced vapor transport technique

Ming-Qiu Tan, Rui-Qing Yang and Chien-Hua Tsai — 227 Plasmon dispersion in tunnelling semiconductor superlattices

P. A. Algarabel and M. R. Ibarra — 231 Spin reorientation phenomena in $RFe_{10}V_2$ intermetallic compounds (R = Dy and Nd)

A. V. Dmitriev — 237 Hot electrons in semiconductors with long-lived resonance impurity states

K. Takegahara and T. Kasuya — 243 Electronic band structure of ThNiSn

Superconductors and Superconductivity

H. Kusuhara, Y. Sakata, Y. Ueba, K. Tada, M. Kaji and T. Ishiguro — 251 Tensile stress effect on transport properties of (BEDT-TTF)$_2$Cu(NCS)$_2$

A. A. A. Youssef, T. Fukami and S. Mase — 257 A mechanism of magnetoresistance below T_c in *c*-axis-oriented high-T_c phase $(Bi_{1-x}Pb_x)_2Sr_2Ca_2Cu_3O_{10+y}$

E. Holguin, H. Berger and J. F. Loude — 263 Dynamics of flux penetration in superconducting YBaCuO hollow cylinders

General Papers (contd)

R. Deich, F. Noack, W. Rudolph and V. Postovalov — 269 Two-photon luminescence in CsI(Na) under UV femtosecond pulse excitation

D. Mihalache, D. Mazilu, W. Biehlig, U. Langbein, F. Lederer and U. Trutschel — 275 TE-polarized waves guided by a nonlinear thin dielectric film bounded by a nonlinear cladding

J. S. Meth, C. D. Marshall and M. D. Fayer — 281 An examination of radiative and nonradiative excitation transport in thin anthracene crystals: transient grating experiments

O. Peña, S. Ihmaïne, C. Perrin and M. Sergent — 285 Magnetic clusters and magnetic interactions in single-crystal studies of K(RE)Nb_6Cl_{18} and (RE)Nb_6Cl_{18}(RE = Lu and Tm)

M. Combescot — 291 Polariton versus optical Stark effect: an old concept revisited

B. Sukumar and K. Naveneethakrishnan — 295 Effect of dielectric screening on the donor states in a quantum well wire

G. N. Derry, M. Ritondo and G. L. Grobe — 299 Experimental test of the thermodynamic interpretation of XPS core level shifts in alloys

P. C. Banbury, P. C. Euthymiou, C. D. Kourkoutas and G. E. Zardas — 305 DLTS studies of defects in GaP:Te before and after electron irradiation

F. Cannata, L. Ferrari and G. Russo — 309 Dirac-like behaviour of a non-relativistic tight binding Hamiltonian in one dimension

G. Antonioli and P. P. Lottici — 313 Ga – Se bond lengths and EXAFS phase-shifts in tetrahedrally coordinated compounds

Xing Yirong, Zhang Jingping, Zheng Lirong and Huang Bo — 319 A study on the initial stages of Au – Si (1 1 3) interface formation

i Author Index Nos 1 – 4

MAY VOLUME 74, NUMBER 5 1990

General Papers

B. N. Narahari Achar and G. R. Barsch — 323 Anharmonic perturbation theory of electrostriction in a perovskite oxide at finite temperature

V. M. Burlakov, S. A. Kiselev and V. N. Pyrkov — 327 Computer simulations of intrinsic localized modes in 1-D anharmonic lattices

M. Kahrizi and M. O. Steinitz — 333 Thermal expansion and phase transitions in some tetra-alkylammonium metal chlorides

P. B. Fabritchnyi, M. I. Afanasov, A. A. Shvyriaev, G. Demazeau and I. A. Presniakov — 337 Interactions hyperfines pour les sondes atomiques ^{119}Sn dans le volume et à la surface de l'oxyde V_2O_3 de part et d'autre de la température de transition

Y. Miyamoto, A. Oshiyama and A. Ishitani — 343 Metastable atomic configurations for oxygen adsorption on Si (1 0 0) surfaces

P. Molinàs i Mata, M. I. Alonso and M. Cardona — 347 Space groups of Ge/Si superlattices grown along the [110], [111], [112], [120], and [114] directions

M. A. de Moura and D. F. de Albuquerque — 353 Remarks on the traversal time in a tunneling process

J. P. Bastide — 355 Crystal structure of lithium beryllium hydrides $LiBeH_3$, Li_2BeH_4

Superconductors and Superconductivity

N. Toyota and T. Sasaki — 361 On the resistance maximum in high-T_c K-(BEDT-TTF)$_2$Cu(NCS)$_2$

S. Barišić and J. Zelenko — 367 Electron mechanism for the structural phase transitions in $La_{2-x}Ba_xCuO_4$

R. F. Wood and M. A. Abdel-Raouf — 371 Comparison of spin-polaron models of high-T_c superconductivity

P. Venugopal Reddy and Y. V. Ramana — 377 Ultrasonic investigations on superconducting Bi – Ca – Sr – Cu – O sample

---

General Papers (contd)

A. L. Ivanov — 383 The new type of the additional boundary condition (ABC) for the problem of the anti-Stokes polariton wave scattering in the polar semiconductor

L. B. Hovakimian, R. A. Vardanian and S. G. Veselko — 389 Inelastic scattering of neutrons by condensons on dislocations in semiconductors

W. Maj — 395 Tunneling study of amorphous $GdAl_2$ films

J. W. Sakai and O. A. C. Nunes — 397 Phonon amplification by absorption of laser field in a semiconductor with a superlattice

A. Gordon, I. D. Vagner and P. Wyder — 401 Domain formation at first-order diamagnetic phase transitions

V. M. Asnin, A. A. Rogachev, A. Yu. Silov and V. I. Stepanov — 405 The two dimensional electron-hole plasma on the GaAs-electrolyte interface

A. B. Dzyubenko 409 Two-dimensional impurity-bound electron-hole complexes in a strong magnetic field

S. Ghose, A. W. Hewat and M. Pinkney 413 A powder neutron diffraction study of magnetic phase transitions and spin frustration in ilvaite, a mixed-valence iron silicate showing a semiconductor-insulator transition

MAY VOLUME 74, NUMBER 6 1990

General Papers

R. Kato, Y. Kawaguchi and M. Ashida 419 Temperature dependence of resonant secondary emission in $NaNO_2$: spectral behavior

M. Bort and D. Wolverson 425 The lifetime distribution of photoluminescence in amorphous phosphorus selenides

A. N. Baranov, P. E. Dyshlovenko, A. A. Kopylov and V. V. Sherstnyev 429 Shallow acceptor states in undoped GaSb

G. Patrat, E. Soyez, M. Brunel, J. Cibert, S. Tatarenko and K. Saminadayar 433 Early stage of growth for (001) ZnTe and (111) CdTe on (001) GaAs: a structural study of the interface using conventional and grazing-incidence X-ray diffraction

M. A. Singh, S. L. Smith, S. E. Nagler and W. J. L. Buyers 439 Low temperature X-ray study of UPd_3

Jian H. Zhang, T. L. T. Birdwhistell and C. J. O'Connor 443 Magnetic and electrical properties of a new chromium telluride phase: $CrTe_2$

S. S. Ostapenko and G. Hofmann 447 Polarized selective excitation of donor–acceptor pair luminescence in AlSb

J. K. Kirui, C. L. Ma, D. Weih and C. F. Schwerdtfeger 451 ESR study of $DMTM(TCNQ)_2$

O. W. Shih, R. L. Aggarwal, Y. Shapira, S. H. Bloom, V. Bindilatti, R. Kershaw, K. Dwight and A. Wold 455 Bandedge magnetoreflectance and magnetization of $Cd_{1-x}Fe_xSe$

P. Bätz, D. Schmeißer and W. Göpel 461 Polaron-induced metallic polypyrrole

D. Majolino, F. Mallamace and N. Micali 465 Viscosity measurements in dense microemulsions, evidence of aggregation process

---

Superconductors and Superconductivity

E. Wang, J.-M. Tarascon and G. W. Hull 471 Ba site vs. Pb/Bi site chemical substitution in the $(Ba,A)(Pb,Bi,Tl)O_3$ (A = K, Sr) superconductor

P. S. Mukherjee, J. Koshy, A. Simon, P. Guruswamy and A. D. Damodaran 477 Oriented grain growth in Bi–Pb–Sr–Ca–Cu–O superconductor

Zhang Xiafeng, Qiu Jinwu, Tang Zhiming and Qian Yongjia 479 Physical structure effects on the response characteristics of an rf-squid at 77 K

M. Ould Die, C. Picard, P. Gerdanian, B. Poumellec and B. Touzelin 483 Electrical conduction of $YBa_2Cu_3O_z$ at the orthorhombic to tetragonal phase transition at high temperature

G. Polla, C. Acha, C. Duran, R. Baggio, M. A. R. de Benyacar 487 Chemical incorporation of halogens in high T_c superconductors: I: chlorine incorporation in $La_{1.8}Sr_{0.2}CuO_4$

C. V. Tomy, R. Prasad, N. C. Soni, K. Adhikary, A. Gulnar and S. K. Malik — 493 Effect of Sb, Sn and In doping on the superconductivity in Bi – Pb – Sr – Ca – Cu – O system

K. Moorjani, J. Bohandy, B. F. Kim and F. J. Adrian — 497 On distinguishing intrinsic and weak-link responses in magnetically-modulated dissipation in high T_c superconductors

K. Kornelsen, J. Eldridge, Hau H. Wang and J. M. Williams — 501 Infrared optical properties of the deuterated form of the 10K organic superconductor (BEDT-TTF)$_2$[Cu(NCS)$_2$]

Jingkui Liang, Xiaolong Chen, Shanlu Wu, Jin Zhao, Yuling Zhang and Sishen Xie — 509 The crystal structure and property of ternary compounds and phase relations in the system Yb_2O_3 – BaO – CuO at 950°C

A. G. Mal'shukov and V. I. Yudson — 517 Raman scattering by electrons in superconductors: contribution of the surface region and Coulomb interaction effects

General Papers (contd)

C. D. Wentworth and Y. L. Wang — 523 Monte Carlo simulation study of an Ising superlattice structure

V. D. Atsigin, S. A. Petrov and E. I. Nuriev — 529 Determination of dominant charge carriers in $Bi_4Ge_3O_{12}$ single crystals

J. Filipowicz, C. Ghezzi and L. Tarricone — 533 Temperature dependence of optical absorption induced by exciton resonances in GaAs/GaAlAs multi-quantum-well structures

T. K. Pramanik and D. P. Bhattacharya — 539 Harmonic generation in semiconductors in the presence of deep repulsive traps

C. Petrillo and F. Sacchetti — 543 Form factor determination in amorphous ferromagnetic systems. Application to $Fe_{78}B_{13}Si_9$

MAY VOLUME 74, NUMBER 7 1990

General Papers

H. Winter, Z. Szotek and W. M. Temmerman — 547 The long-wavelength spin fluctuation spectrum of Ni_3Ga

S. G. Porutsky, E. A. Zhurakovsky, S. A. Mogilevsky, V. N. Verbetsky, O. S. Bakuma and K. N. Semenenko — 551 Electronic structure of Mg_2FeH_6 and Mg_2CoH_5 hydrides and binding role of hydrogen in them

V. S. Dneprovskii, Al. L. Efros, A. I. Ekimov, V. I. Klimov, I. A. Kudriavtsev and M. G. Novikov — 555 Time-resolved luminescence of CdSe microcrystals

P. Arendt — 559 Change in electrical conductivity of a gel made from decomposing liquid metal – ammonia solutions as the gel is dried to a xerogel

P. K. Patil, J. K. Nandgave and R. D. Lawangar-Pawar — 567 Effect of copper doping on the electrical and optical properties of $(Zn_{0.4}Cd_{0.6})S$ films sintered with $CdCl_2$

P. Maigné, A. P. Roth, C. Lacelle and J. Mc Caffrey — 571 Relaxation effect on X-ray rocking curves of InGaAs/GaAs strained layer superlattices

A. V. Dmitriev 577 Calculation of the Auger lifetime of degenerate carriers in the many-valley narrow gap semiconductors

Y. Garreau and G. Loupias 583 Compton profile of MgH_2

Superconductors and Superconductivity

C. Greaves and P. R. Slater 591 A neutron diffraction study of quenched and annealed $YBa_2Cu_3O_{7-x}$ (x = 0.4,0.6,0.8)

B. Kusz, R. Barczynski, M. Gazda, L. Murawski, O. Gzowski, I. Davoli and S. Stizza 595 Internal friction in high T_c iron doped 1–2–3 yttrium ceramic superconductors

S. Sugai, T. Kobayashi and J. Akimitsu 599 Magnon and phonon Raman scattering in Pr_2CuO_4

V. A. Atsarkin, G. A. Vasneva, V. V. Demidov and N. E. Noginova 603 Fast magnetic relaxation detected by transient rf and microwave absorption in high T_c ceramics

Y. Sakisaka, T. Maruyama, Y. Morikawa, H. Kato, K. Edamoto, M. Okusawa, Y. Aiura, H. Yanashima, T. Terashima, Y. Bando, K. Iijima, K. Yamamoto and K. Hirata 609 Angle-resolved photoemission from epitaxial $Nd_{2-x}Ce_xCuO_4$(0 0 1) films

N. Troullier and J. L. Martins 613 A straightforward method for generating soft transferable pseudopotentials

Yu. A. Ossipyan, Yu. S. Greznev, V. L. Matukhin, I. A. Safin, N. S. Sidorov, G. B. Teitelbaum and O. V. Zharikov 617 Specific features of NQR and EPR spectra of Y–Ba–Cu–O ceramics doped by iodine and bromine

O. Durmeyer, J. P. Kappler, A. Derory, M. Drillon and J. J. Capponi 621 Magnetic superconducting properties of $LiTi_2O_4$ single crystal

O. G. Vendik, M. M. Gaĭdukov, A. Karpiuk, S. G. Kolesov, L. Kowalewicz, A. B. Kozyrev and A. Yu. Popov 625 Effect of d.c. magnetic field on microwave losses in single and polycrystalline high-T_c superconductors

G. K. Bichile, D. G. Kuberkar and S. S. Shah 629 Influence of the oxygen stoichiometry on the structure and superconducting properties of Er–Ba–Cu–O system

V. Plecháček and J. Dominec 633 Sound velocities in single-phase 2 2 2 3 Bi, Pb–Sr–Ca–Cu–O polycrystalline superconductor

V. V. Nemoshkalenko, M. A. Ivanov, B. G. Nikitin, Yu. G. Pogorelov and G. A. Klimenko 637 Continuous range of stable equilibrium positions in the system of magnet and high-T_c superconductor

Y. Fujiwara, S. Hirata, M. Iyori and T. Kobayashi 641 Cathodeluminescence from MgO substrates with YBaCuO superconducting epitaxial thin films

General Papers (contd)

P. G. Baranov and J. Rosa 647 The origin of the EPR of u.v. irradiated $PbCl_2$ single crystals

A. V. Germanenko and G. M. Min'kov 649 The influence of uniaxial stress on the hopping conductivity in p-InSb. The anisotropy of the hopping conductivity

F. J. Espinoza-Beltran and P. Halevi 655 Exciton-polaritons in thin films: band splitting linear in the wavevector

G. Carini, M. Cutroni, M. Federico, G. Galli and G. Tripodo — 661 Acoustic properties of borate glasses at low temperatures

C. Main, A. Merazga, I. K. Kristensen and J. Berkin — 667 Transient photoconductivity, trap saturation and optical bias in *n*-type *a*-Si:H

S. M. Cheremisin and A. Yu. Dudkin — 673 Temperature-dependent structural relaxation in amorphous $Fe_{80}B_{20}$

K. Seki, S. Asada, T. Mori, H. Inokuchi, I. Murase, T. Ohnishi and T. Noguchi — 677 UV photoemission spectroscopy of poly (*p*-phenylene vinylene) (PPV)

R. E. Feldman and T. C. Huang — 681 Effect of atomic size on the minimum X-ray absorption coefficient in the six-beam Borrmann diffraction

V. Villas-Boas, F. P. Missell, G. Schneider, Q. Lu and D. Givord — 683 Coercivity and magnetic viscosity in $Nd_{80}Fe_{15}B_5$

i Corrigendum

MAY VOLUME 74, NUMBER 8 1990

General Papers

H. Q. Hou, W. Staguhn, N. Miura, Y. Segawa, S. Takeyama, Y. Aoyagi and J. M. Zhou — 687 Photoluminescence intensity of InGaAs/GaAs strained quantum wells under high magnetic fields

A. Yoshimori and K. Makoshi — 693 Beam Kondo effect? — Possible anomalous Penning deexcitation spectrum

Y. Kimishima and K. Koga — 697 Magnetic properties of $(CH_3NH_3)_2CoX_4$ (X = Cl, Br) single crystals

P. Vargas, M. Weissmann, J. E. Ure and N. Majlis — 703 Extrapolation algorithm for the terminator problem in the recursion method

A. Y. Polyakov, A. V. Pakhomov, M. V. Tishkin, A. N. Popkov, E. V. Molodtsova, E. A. Kozhukhova, A. A. Shlensky, L. V. Druzhinina and E. M. Omeljanovsky — 711 The effect of hydrogen on bulk and surface traps in indium antimonide

C. L. Folcia, J. M. Pérez-Mato and M. J. Tello — 717 Thermal history and dielectric behaviour of $[N(CH_3)_4]_2ZnCl_4$ at the incommensurate—commensurate phase transition

C. Godet, I. El Zawawi, M. L. Thèye, M. Gauthier and J. P. Stoquert — 721 Improvement of plasma-deposited *a*-Ge : H thin films by hydrogen dilution of germane

Hong Sun, Bo-Ping Hu, Hong-Shuo Li and J. M. D. Coey — 727 Magnetic properties of $Y_2Fe_{17}C_x$

P. Stefański — 731 The spin reorientation transitions in $RFe_{10}Cr_2$ (R = Tb, Dy)

H. Schweitzer and G. Czycholl — 735 The second order U-perturbation approach to the Anderson lattice model in one, two and three dimensions

T. Tsuzuki — 743 Dynamic compensation theorem and exact partition function of a spin-boson system

---

Superconductors and Superconductivity

V. V. Aleksandrov, T. S. Velichkina, I. V. Vodolazskaya, V. I. Voronkova, I. A. Yakovlev and V. K. Yanovskii — 749 Anisotropy of Rayleigh wave velocity of $TmBa_2Cu_3O_{7-}$, single crystals

D. Mihailovic and C. M. Foster — 753 Anharmonicity and frequency shift of the apex oxygen O(4) Raman mode in $Y_1Ba_2Cu_3O_{7-\delta}$ as a function of doping

Y. Watanabe, Z. Z. Wang, S. A. Lyon, N. P. Ong, D. C. Tsui, J. M. Tarascon and E. Wang — 757 Mid-infrared reflectivity of single crystal $Nd_{2-x}Ce_xCu_4O_{4-y}$

Y. Tanaka and M. Tsukada — 763 Dirty limit theory of the superconducting proximity effect in the three-dimensional system

Y. Okajima, K. Yamaya, N. Yamada, M. Oda and M. Ido — 767 Reduction of the electronic coefficient of the specific heat around $x = 0.065$ in $(La_{1-x}Ba_x)_2CuO_4$

J. Drahokoupil, M. Polčík and E. Pollert — 773 Experimental study of the *p*-partial density of states in Cu_2O, CuO and $YBa_2Cu_3O_{7-x}$ by X-ray Cu K absorption and emission bands

F. Sapiña, J. Rodríguez-Carvajal, M. J. Sanchis, R. Ibáñez, A. Beltrán and D. Beltrán — 779 Crystal and magnetic structure of Li_2CuO_2

M. Ohkubo — 785 Normal state resistivity in epitaxially grown $YBa_2Cu_3O_x$ thin films with $x = 6$ to 7

K. K. Saini, C. P. Sharma, S. N. Ekbote, D. K. Suri, P. Asthana, K. C. Nagpal, Chanderkant and Subhas Chandra — 789 The effect of high temperature sintering on the T_c of $Tl_1Ba_2Ca_{n-1}Cu_nO_x$ system

R. Ilango, R. K. Rajaram and N. Krishnamurthy — 797 Lattice vibrations in high T_c $Bi_2(Sr_{1-x}Ca_x)_2CuO_{6+\delta}$

M. Breza and R. Boča — 801 Electronic structure of Tl – Ba – Ca – Cu – O systems

R. Zeyher and K. Kunc — 805 Instabilities in cubic $BaBiO_3$ from total-energy calculations

General Papers (contd)

C. J. Barnes, M. Valden and A. Vuoristo — 811 Stabilization of a h.c.p. Cu phase by thin film epitaxy on Co(1 0 $\bar{1}$ 0)

H. W. Jeon, J. H. Lee, K. S. Kim, H. K. Kim, J. S. Hwang, S. K. Chang, C. H. Chung and H. L. Park — 817 Photoluminescence studies on Zn-rich $Hg_{1-x}Zn_xTe$ single crystals and composition determination

T. Furubayashi and I. Nakatani — 821 Magnetic properties of Ni fine particles

R. Jagannathan, R. P. Rao, R. L. Narayanan and L. K. Srinivasan — 825 Luminescence of Eu^{2+} in alkaline earth chloroapatites

Z. V. Popović, G. Kliche, R. Liu and F. G. Aliev — 829 Vibrational properties of MeNiSn(Me = Ti, Zr, Hf)

Z. Wilamowski, K. Świątek, T. Dietl and J. Kossut — 833 Resonant states in semiconductors: a quantitative study of HgSe : Fe

S. Saha, U. Pal, B. K. SamantaRay and A. K. Chaudhuri — 839 Effect of preferred orientation on photovoltage of CdTe thin films

W. C. Kok — 843 Determination of the phonon density of states from specific heat data

B. Šantić, Dunja I. Desnica, B. G. Petrović and U. V. Desnica — 847 Quenching and enhancement of photoconductivity in semi-insulating GaAs

S. Ramasamy, J. Jiang, H. Gleiter, R. Birringer and U. Gonser — 851 Investigation of nanocrystalline FeF_2 by Mössbauer spectroscopy

L. R. Logan and M. G. Cottam 857 Integral-equation approach to the quantum-mechanical theory of positron channeling

G. Galeczki and G. Nimtz 863 Comment on: "Specific heat of hot electrons in the gas and in the condensed state" by G. Nimtz and J. P. Stadler

K. Sutter, J. Hulliger and P. Günter 867 Photorefractive effects observed in the organic crystal 2-cyclo-octylamino-5-nitropyridine doped with 7,7,8,8-tetracyano-quinodimethane

i Author Index Nos 1 – 8

JUNE VOLUME 74, NUMBER 9 1990

General Papers

A. M. Chang 871 A unified transport theory for the integral and fractional quantum Hall effects: phase boundaries, edge currents, and transmission/reflection probabilities

M. Sumetskii 877 Potential barrier renormalization by low-energy surface plasmons

P. S. R. Prasad and H. D. Bist 885 Raman investigation of order – disorder transition in *n*-propylammonium chloride

A. S. Esperidião, A. R. Vasconcellos and R. Luzzi 889 Steady-state polarization waves in photoexcited *n*-doped semiconductors

Shen Bao-gen, Yang Lin-yuan, Zhang Jun-xian, Gu Ben-xi, Ning Tai-shan, Wo Feng, Zhao Jian-gao, Guo Hui-qun and Zhan Wen-shan 893 Magnetic properties of rapidly quenched NdFeB alloys with lower Nd concentration

Tsin-Fu Jiang 899 Hyperspherical coordinates method in the theory of exciton-ionized donor complex of semiconductors

G. Agüero, H. Droguett and M. Lagos 903 Some analytical and computational aspects of the absorption bands in crystals with defects

E. Costanzo, G. Faraci, A. R. Pennisi, A. Terrasi, Y. Hwu and G. Margaritondo 909 Polycrystalline and highly oriented graphite: differences in the photoemission spectra

I. J. Ferrer, D. M. Nevskaia, C. de las Heras and C. Sánchez 913 About the band gap nature of FeS_2 as determined from optical and photo-electrochemical measurements

C. Tserbak, H. M. Polatoglou, G. Kanellis and G. Theodorou 917 Band structure and optical transitions of strained Si/Ge superlattices

C. R. Leavens 923 Transmission, reflection and dwell times within Bohm's causal interpretation of quantum mechanics

S. Charbonneau, J. F. Young and A. J. Springthorpe 929 Tunnelling of optically-generated holes in a double barrier resonant tunnelling structure

M. J. S. P. Brasil and P. Motisuke 935 Direct analysis of the photocurrent transient in semi-insulating GaAs

---

Superconductors and Superconductivity

R. C. Mercader, G. Punte and E. J. Baran 943 Mössbauer study of tin-doped Y_2BaCuO_5

A. Nishida and K. Horai 947 Irreversibility behavior investigated with microwave absorption in the high-T_c Bi(Pb) – Sr – Ca – Cu – O superconducting ceramics

M. Sera, S. Shamoto, M. Sato, I. Watanabe, S. Nakashima and K. Kumagai 951 Thermal conductivity of high-T_c oxides

I. Nowik, G. Kaindl, E. R. Bauminger, I. Felner, M. Kowitt and U. Yaron 957 Temperature dependence of Fe hyperfine field in $RBa_2Cu_3O_z$

G. A. Scholz and F. W. Boswell 959 Intercalating the high T_c superconductor $Bi_2Sr_2CaCu_2O_{8+\delta}$

S. E. Shafranjuk 961 Interaction electromagnetic field and anisotropic superconductors: application to high T_c

S. Komura, T. Takeda, D. Schwahn and T. Springer 965 Absence of neutron Bragg reflections from the magnetic flux-line lattice structures in $YBa_2Cu_3O_7$ and $Bi_2Sr_2CaCu_2O_8$

S. Hüfner 969 The electronic structure of high-T_c-superconductors

K. N. Raju, R. Chandra Sekhar, D. Raja Reddy and B. K. Reddy 975 Tailor made TSC peaks in sprayed CdS films

Sang Young Lee, J. H. Park, Y. H. Kim and S. S. Choi 979 Low-field magnetic properties of the three-dimensional Y – Ba – Cu – O – Ag composite in the superconducting state

P. K. Ummat, W. R. Datars, V. V. Gridin and C. V. Stager 983 Superconducting phases of the BiSrCaCuO system

General Papers (contd)

B. A. Kalinikos, N. G. Kovshikov, P. A. Kolodin and A. N . Slavin 989 Observation of dipole-exchange spin wave solitons in tangentially magnetised ferromagnetic films

E. Vescovo, L. Braicovich, G. Chiaia, F. Ciccacci and M. Sancrotti 995 Photon energy dependence of inverse photoemission from $LaPd_3$ in the ultraviolet range

C. D. Kourkoutas, P. C. Euthymiou and G. J. Papaioannou 999 Dependence of the mobility limit upon the Fermi level position in direct gap III – V group semiconductors

A. Stesmans and G. Van Gorp 1003 Observation of dipolar interactions in a dilute two-dimensional spin system: °Si≡Si_3 defects at the (1 1 1) Si/SiO_2 interface

R. Eggenhoffner, M. Sancrotti, I. Abbati, E. Puppin, Z. X. Shen, I. Lindau, A. Iandelli and G. L. Olcese 1009 Yb valence in $Yb_{1-x}Ca_xAl_2$ pseudobinary alloys via Yb L_{III} X-ray absorption spectroscopy

Xudong Weng, P. Rez and P. E. Batson 1013 Single electron calculations for the Si $L_{2,3}$ near edge structure

D. Tian, R. F. Lin, F. Jona and P. M. Marcus 1017 A low-energy electron diffraction study of the Pd {0 0 1} c(2 × 2)-Mn adsorbed system

A. Sachrajda, R. Boulet, Z. Wasilewski, P. Coleridge and F. Guillon 1021 Activation measurements of the fractional quantum Hall effect as a function of magnetic field

H. K. Mao, Y. Wu, J. F. Shu, J. Z. Hu, R. J. Hemley and D. E. Cox 1027 High-pressure phase transition and equation of state of lead to 238 GPa

JUNE VOLUME 74, NUMBER 10 1990

General Papers

Z. Szotek, W. M. Temmerman and H. Winter 1031 On the self-interaction correction of localized bands: application to rare gas solids

M. Lenglet, R. Guillamet, J. Dürr, D. Gryffroy and R. E. Vandenberghe 1035 Electronic structure of $NiCo_2O_4$ by XANES, EXAFS and ^{61}Ni Mössbauer studies

J. F. Berret, F. Bruchhäuser, R. Feile, C. Bostoen and S. Haussühl 1041 Anomalous thermoelastic behavior of $(KI)_{1-x}(NH_4I)_x$

R. N. de Mesquita, G. E. Barberis, C. Rettori, M. S. Torikachvili and M. B. Maple 1047 Crystal field effects in the ESR spectra of $Ce_{1-x}RE_xFe_4P_{12}$(RE = Gd, Dy, Er)

G. Kirczenow 1051 Quantum theory of Hall anomalies and bend resistance in narrow ballistic conductors at low magnetic fields

S. Permogorov, A. Naumov, C. Gourdon and P. Lavallard 1057 Hidden anisotropy of localized exciton states in short period GaAs/AlAs superlattices

E. C. Jung, B. K. Rhee, Y. D. Kim and C. S. Jung 1063 Study of adatomic diffusion in surface-enhanced Raman scattering by photoacoustic method

S. Schmitz and S. Ewert 1067 Electron density of states anomalies in disordered gold, silver and indium films

I. Sarda, G. Ablart, J. Pescia, P. Le Bail and P. Colombet 1071 Spin dynamics in the intercalates $Eu_xZrSe_{1.95}$

F. Marabelli and P. Wachter 1075 Optical study of U_2PTC_2: evidence of heavy fermion behavior

W. E. Frieze, D. W. Gidley and B. D. Wissman 1079 Positron tunneling microscopy

---

Superconductors and Superconductivity

Sui-Geng Jin, Zheng-Zhong Zhu, Lin-Mei Liu and Yun-Lian Huang 1087 Water reactions of superconducting $Bi_2Sr_2CaCu_2O_8$ phase at 0°C and ambient temperature

Jing Zhao, H. O. Marcy, L. M. Tonge, B. W. Wessels, T. J. Marks and C. R. Kannewurf 1091 Deposition of high-T_c superconducting Y – Ba – Cu – O thin films at low temperatures using a plasma-enhanced organometallic chemical vapor deposition approach

Jun Chen and Lee Chow 1095 BiSrCaCuO superconducting thin films on $LaGaO_3$ and $SrTiO_3$ by rf sputtering

K. Tsutsumi, Y. Ishihara and H. Suzuki 1099 Superconductivity in a layered transition-metal dichalcogenide 2H – TaS_2

Th. Leventouri, E. Liarokapis and J. S. Faulkner 1103 Bulk preferred orientation in superconducting $YBa_2Cu_3O_x$

M. Boekholt, A. Erle, P. C. Splittgerber-Hünnekes and G. Güntherodt 1107 Phonon Raman spectroscopy of superconducting $Bi_2Sr_2CaCu_2O_{8+\delta}$ single crystals

C. Paracchini 1113 Electrical transport properties of $YBa_2Cu_3O_x$ films

M. Tei, H. Takai, K. Mizoguchi and K. Kume 1117 Anomalous sharp peak at 35 K in transverse relaxation rates of ^{63}Cu and ^{65}Cu nuclear quadrupole resonance in copper oxide superconductors $YBa_2Cu_3O_{7-x}$ ($T_c \sim 92$ K)

General Papers (contd)

A. D'Andrea and R. Del Sole 1121 Excitons in semiconductor confined systems

J. T. T. Kumaran and C. Bansal 1125 Dependence of average hyperfine fields and order – disorder kinetics on near neighbour environments in $Fe_{1-x}Mn_xSi$ alloys

M. Sancrotti, I. Abbati, E. Puppin, Z. X. Shen, I. Lindau, R. Eggenhöffner, A. Iandelli and G. L. Olcese 1131 Yb mean valence in chemically compressed $Yb_{1-x}Sc_xAl_2$ pseudobinary alloys: an X-ray absorption spectroscopy investigation

H. Zheng and A. M. Jayannavar 1137 Squeezed-state approach to the $E-e$ Jahn – Teller system

M. Krapf, G. Denninger, H. Pascher, G. Weimann and W. Schlapp 1141 Optically detected conduction electron spin resonance and Overhauser shift in *p*-GaAlAs/GaAs-heterostructures

R. Harinath, S. Buddhudu, F. J. Bryant and Luo Xi 1147 Absorption and fluorescence properties of Eu^{3+} doped alkali mixed heavy metal fluoride glasses

S. Nomura and T. Kobayashi 1153 Variational calculation on electric field dependence of energy of spherical semiconductor microcrystallites

J. Tuchendler and K. Katsumata 1159 Electron spin resonance in the diluted uniaxial antiferromagnet $Mg_{1-x}Fe_xCl_2$

J. Przesławski, A. M. Glazer and Z. Czapla 1165 Linear birefringence and negative isotopic effect in $LiRb_4H_3(SO_4)_4$ crystals

O. A. Gudaev, V. K. Malinovsky, E. E. Paul and V. A. Treshikhin 1169 Nonactivation nature of conductivity in disordered materials

JUNE VOLUME 74, NUMBER 11 1990

General Papers

MD. Coutinho-Filho, M. L. Lyra and A. M. Nemirovsky 1175 Fluctuation-induced first-order transition in the Hubbard model

D. Gottlieb, J. Rössler and G. Martinez 1181 Structural instability in a boson system

K. Kobayashi, N. Isshiki and M. Tsukada 1187 Effect of tip atomic structure on scanning tunneling spectroscopy

R. S. Kwok, P. Maxton and A. Migliori 1193 Thermal conductivity of single crystal *l*-alanine

A. Mourchid, D. Hulin, R. Vanderhaghen, W. L. Nighan Jr., K. Gzara and P. M. Fauchet 1197 Femtosecond spectroscopic determination of the properties of free carriers in *a*-Si:H

Superconductors and Superconductivity

V. Z. Kresin and H. Morawitz 1203 Carrier concentration dependence of T_c in the layered copper oxides

General Papers (contd)

D. G. Polyakov and M. E. Raikh 1209 Nonresonant mechanism of impurity breakdown of integer quantum Hall effect in electric field

H. Mohan and R. G. Kulkarni 1213 Spin-glass behaviour in $CdFe_{1-x}Sb_x$ system

J. H. Kaufman, S.-M. Huang, R. K. Shibao and R. B. Kaner 1217 Spinless charge carriers in divalent cation doped polyacetylene

Yuan Jian 1221 Some magnetic properties of quasi-periodic superlattices with antiferromagnetic interfacial coupling

Zhong Lei, Wang Zhanguo, Wan Shouke and Lin Lanying 1225 Neutron irradiation induced photoluminescence from silicon crystal grown in ambient hydrogen

G. H. Schadler 1229 Electronic structure and XPS spectra for stoichiometric and substoichiometric UC

Tae Song Kwon, Kyun Nahm, Youk Cho, H. Fütterer, Chul Koo Kim and J. Pelzl 1233 Exchange energy contribution to the elastic constants of Nd_3Se_4

M. Wautelet 1237 Size effect on the melting (or disordering) temperature of small particles

H. Hikita, K. Takeda and Y. Kimura 1241 Superposition model parameters of Cr^{3+} in rutile-type crystals

V. M. González Robles and G. Gonzáles de la Cruz 1245 Collective modes in a multilayer p−n−p... structure

i Instructions for Authors on the Preparation of Camera-Ready Manuscripts for *Solid State Communications*

JUNE VOLUME 74, NUMBER 12 1990

General Papers

I. Sosnowska, B. Hilczer and P. Piskunowicz 1249 Polymorphism of $LiNH_4SO_4$ single crystals

I. Pócsik and M. Koós 1253 Cluster size determination in amorphous structures using the Boson peak

J. Riess 1257 Remark on the topological approach to the quantum Hall effect

H. Mori, S. Tanaka, K. Oshima, M. Oshima, G. Saito, T. Mori, Y. Maruyama and H. Inokuchi 1261 Electrical properties and crystal structures of mercury (II) thiocyanate salts based upon BEDT-TTF with Li^+, K^+, NH_4^+, Rb^+, and Cs^+

S. Matsuzaki, Y. Matsushita and M. Sano 1265 Pressure-induced phase transition of $Cs_2(TCNQ)_3$ crystals revealed by Raman spectroscopy

C. S. Cariss, L. C. Porter and R. J. Thorn 1269 Temperature dependence of conductivity of κ-(BEDT-TTF)$_2$Cu(SCN)$_2$; resolution into two components; small polaron

I. Zorkani, E. Kartheuser and S. Rodriguez 1275 Spin resonance of electrons bound to donors in diluted magnetic semiconductors

B. F. Feuerbacher, J. Kuhl, R. Eccleston and K. Ploog 1279 Quantum beats between the light and heavy hole excitons in a quantum well

---

Superconductors and Superconductivity

T. Tsang 1287 Electron pairing in high-T_c superconductors

J. S. Moya and E. Saiz — 1291 Preparation of YBaCuO – Ag composites by control of the sintering atmosphere

V. V. Moshchalkov, A. A. Zhukov, V. D. Kuznetsov, V. V. Metlushko, V. I. Voronkova and B. K. Yanovskii — 1295 The full Meissner effect in the untwinned $TmBa_2Cu_3O_x$ single crystal

E. T. Heyen, G. Kliche, W. Kress, W. König, M. Cardona, E. Rampf, J. Prade, U. Schröder, A. D. Kulkarni, F. W. de Wette, S. Piñol, D. McK. Paul, E. Morán and M. A. Alario-Franco — 1299 Phonons in $Nd_{2-x}Ce_xCuO_4$

S. D. Brorson, A. Kazeroonian, D. W. Face, T. K. Cheng, G. L. Doll, M. S. Dresselhaus, G. Dresselhaus, E. P. Ippen, T. Venkatesan, X. D. Wu and A. Inam — 1305 Femtosecond thermomodulation study of high-T_c superconductors

T. Nagao, H. Mori, F. Yonezawa and K. Nishikawa — 1309 Theoretical study of impurity effects on high-temperature superconductivity

T. K. Dey, K. Radha, H. K. Barik, D. Bhattacharya and K. L. Chopra — 1315 Excess electrical conductivity and thermoelectric power of $(YBa_2Cu_{3.05}O_x)$ Ag_n pellets

M. Oda, H. Matsuki and M. Ido — 1321 Common features of magnetic and superconducting properties in Y-doped $Bi_2(Sr,Ca)_3Cu_2O_8$ and Ba(Sr)-doped La_2CuO_4

Zhen Ye, H. Umezawa and R. Teshima — 1327 Low critical field and London penetration depths in multi-sheet superconducting states

P. Calvani, M. Capizzi, S. Lupi, P. Maselli, D. Peschiaroli and H. Katayama-Yoshida — 1333 Infrared reflectivity of Bi – Sr – Ca – Cu – O high-T_c superconductors

C. Meyer, F. Hartmann-Boutron, Y. Gros, P. Strobel, J. L. Tholence and M. Pernet — 1339 Study of the magnetic ordering temperature and of the magnetic structure of the "green phase" Y_2BaCuO_5 by ^{57}Fe Mössbauer spectroscopy

General Papers (contd)

P. Monachesi and E. G. Moroni — 1349 Pressure induced magnetic moment reduction in CeAg

J. Sjöström, T. Jarlborg and Ö. Rapp — 1355 Pressure dependence of the electron – phonon interaction of Sn and Zr

S. K. Hoffmann, A. Waśkowska and W. Hilczer — 1359 Thermal expansion and interdimer exchange coupling in $[Co(ethylenediamine)_3]_2[Cu_2Cl_8]Cl_2 \cdot 2H_2O$ single crystals

1363 Author Index Nos 1 – 12